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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,699	06/20/2001	Takahisa Aoyama	L9289.01148	3222

7590 11/02/2004

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Washington, DC 20036

EXAMINER

UBILES, MARIE C

ART UNIT	PAPER NUMBER
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2642

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/868,699	Applicant(s) AOYAMA, TAKAHISA	
	Examiner Marie C. Ubiles	Art Unit 2642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/20/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Shoki et al. (US 6,087,986).

As for claim 1, Shoki et al. discloses a radio communication apparatus that forms a directivity using an array antenna (or *adaptive array antenna*) composed of a plurality of antenna devices (See Fig. 3, elements 21-24), said radio communication apparatus comprising, a detector (reads for example on “*received signal 201*” of Fig. 8) detecting null point of a radiation pattern for a communicating party to which a directivity is formed already; an estimator for estimating a direction (reads into “*estimation of transmission environment 202A*” and “*calculation of weight amount*” of Fig. 8) where the communicating party exists using the detected null point; and a generator for generating a weight coefficient for a communicating party to which a directivity is not formed yet in accordance with an estimation result (reads into functions performed by “*setting of weight amount 203*” of Fig. 8). (See also Col. 6, line 60 through Col. 7, line 10).

In regards to the limitations specifying "detecting a null point" and "using the detected null point", both are inherent features of adaptive antenna arrays, such features are used in the suppression of signals jamming (See Col. 1, lines 6-18).

Claims 8-9 are rejected for the same reasons as claim 1.

Claim 2 reads, for example, on the same functions performed by the adaptive antenna array of claim 1, the antenna devices will be receiving a plurality of radiation patterns thus the estimator will be comparing a plurality of received null points (Also see Col. 1, lines 6-18). The limitations in claims 3-6 can be read on the functions performed by the adaptive array antenna as explained on the Background of the Invention, Col. 1, lines 14-37.

As for claim 7, it is well-known in the art, to adjust transmission power on an adaptive array antenna based on a multiplication by a weight vector (or coefficient) of a transmission signal.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Upadhyay et al. (US 6,115,409) teaches an integrated adaptive array system for controlling sources of interferences in CDMA receivers.

Youssefmir et al. (US 6,141,567) teaches an apparatus and method for beamforming in a changing-interface environment.

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Doi et al. (US 6,636,493) teaches an adaptive array having directivity control based on received radio strength.

Hidehiro (Abstract JP 57-20001) teaches a weight control circuit that obtains information on a point in the minimum value direction of a radiation pattern and then generates a weight control signal for generating a new radiation pattern which is null in the direction.

Doi et al. (Abstract JP 2000-082987) teaches a method for controlling directivity of an antenna.

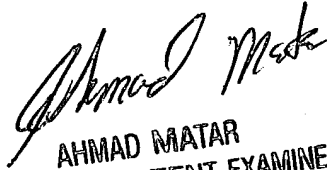
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marie C. Ubiles whose telephone number is (703) 305-0684. The examiner can normally be reached on 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar can be reached on (703) 305-4731. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marie C. Ubiles
October 18, 2004.


AHMAD MATAR
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600